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ABSTRACT

To specify different modes of individual children's social integration, this study examined qualitative and quantitative aspects characterizing distinct types of peer relationships. Subjects were 255 children in grades 2 through 5 of an inner-city primary school in Berlin, Germany. Subjects were individually interviewed at school about their friends, and were asked to nominate all children with whom they had contact outside school. A subsample of 116 children and their parents were additionally interviewed at home about further characteristics of their friendships, their concept of friendship, the quality of the parent-child relationship, and other characteristics of family life. Three descriptive scales (assistance, fun, and absence of quarreling) were developed and confirmed by factor analysis to be different dimensions of relationship descriptions. Analysis revealed that children described same-sex relationships as more intense than opposite-sex relationships. Having opposite-sex relationships and getting assistance and fun in opposite-sex relationships was positively related to social and cognitive development. The same result was not found for same-sex relationships. Relationships with classmates were of higher importance for children's feeling of acceptance than relationships with non-classmates. Finally, analysis showed that reciprocal relationships were more intense and provided more assistance and fun than non-reciprocal relationships. (MM)

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PEER RELATIONSHIPS OF CHILDREN IN MIDDLE CHILDHOOD

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March 1993

Peer relationships of children in middle childhood

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1. General problem

The study of children's relationships to other children has found increasing interest with regard to the developmental incentives which are contained in the interactions of related children. If children are related to each other, they can refer to earlier joint activities, share meanings, and must mutually consider consequences of their present interaction for the future of their relationship. Therefore, interactions within relationships are a rich field of experience which stimulates social, socio-cognitive, and cognitive development of children integrated in these relationships (Hartup, 1985; Hinde & Stevenson-Hinde, 1987).

In order to determine existing relationships, researchers used sociometric nomination procedures (Coie, Dodge & Coppotelli, 1982), interviews (Berndt, Hawkins, & Hoyle, 1986; Nelson & Aboud, 1985), questionnaires (Bukowski, Hoza, & Newcomb, 1987), or observed children's closeness in play situations (Hartup, Laursen, Stewart, & Eastenson, 1988) and, on the basis of these data, distinguished friends from non-friends and, sometimes, from "lukewarm friends" (Aboud, 1989).

However, this distinction seems to be rather onedimensional as it primarily highlights the intensity of relationships and neglects the possibility that relationships do not only differ with regard to the intensity of friendships, but also with regard to qualities characterizing distinct friendships. Thus, Bukowski and Hoza (1989) proposed a hierarchical model of friendship measurement. In the last step of the procedure, the quality of relationships which are mutually confirmed by both children interviewed, is further examined. By this procedure friendships of different qualities can be distinguished. This distinction may contribute to a better understanding of some irritating results of studies which investigated the impact of friendship on children's behaviors (Hartup, 1989).

In previous analyses we differentiated three dimensions describing qualities of children's friendships, assistance, fun, and quarrel (Oswald, Krappmann, Uhlendorff, & Weiss, in press). Not only the intensity of a child's relationships, but also the amount of assistance, fun, and quarrel turned out to be differentially related to the children's social acceptance (Harter), loneliness (Asher), and to the development of their friendship concept (Selman).

These analyses referred to the totality of children's relationships without differentiating same-gender and cross-gender relationships, relationships inside and outside the classroom, and reciprocal as well as unilateral relationships. However, it is important to learn whether these subgroups of relationships are characterized in the same way by distinct qualitative features. These subgroups were chosen for comparison because they represent the most important distinctions of children's relationships.

Same-gender vs. cross-gender relationships: In middle childhood relationships to agemates usually are same-gender relationships. Some theories even claim that only same-gender relationships form the setting relevant for children's social experience. However, many children also nominate cross-gender friends which at this period of development may already offer other kinds of experience than same-gender relationships.

Relationships inside the classroom vs. relationships outside the classroom: Certainly, the classroom is the most important place in children's social life, because relationships apparently are influencing academic achievement. Perhaps, children's relationships outside the classroom form a contrast to the relationships established under conditions of school and instruction. As sociometric procedures can only be applied within social groups we know little about the character of children's relationships residing in neighborhood and playgrounds. Also the result of our study that the number of relationships maintained inside and outside the classroom are related only marginally, underlines that these subgroups of relationships have their own origin and course.

Reciprocal vs. unilateral relationships: Only mutual relationships are regarded as "real" friendships according to an advanced understanding of friendship (Selman, 1980). However, children often show strong affiliations to children who do not reciprocate the friendship nomination. It is worthwhile to examine whether these one-sided friendships are described in another way than reciprocal friendships.

The first aim of the paper refers to differences between same-sex and opposite-sex relationships. We ask three questions: (1) Are both kinds of relationships described differently by children? (2) Do both kinds of relationships affect the children's feeling of being socially accepted to the same

extent or is one kind of relationships of greater importance? (3) Do both kinds of relationships promote socio-cognitive development or is one kind of relationships of greater importance?

The second aim refers to differences between relationships to classmates and to non-classmates. With respect to these two kinds of relationships we ask again the same three questions: Are both kinds of relationships described differently, do they affect the feeling of being socially accepted differently, and do they have a different impact on socio-cognitive development?

The third aim refers to differences between reciprocal and non-reciprocal relationships with classmates and has also methodological relevance. Again we ask whether both kinds of relationships are described differently. We will also examine what these differences tell us about the validity of our friendship measures and about the applicability of the instrument to children's networks outside classrooms where reciprocity information cannot easily be collected.

2. Method

This study was conducted in an inner-city primary school located in the western part of Berlin, Germany, in 1991. We were able to include all classrooms from grade 2 to grade 5 with one exception[1]. Since only 24 of the 279 children attending these classrooms refused to participate in this study, the sample consists of almost the entire child population of these age groups living in the neighborhood around the school, because in Berlin all children of a neighborhood have to attend the same primary school. The 255 children, therefore, form an almost unselected sample that can be regarded as fairly representative for city-school districts composed by families assigned to the upper-lower, lower-middle, and middle-middle class. Members of the middle-middle class are slightly overrepresented.

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insert table 1 about here

The *interview about friends* (Krappmann et al., 1991) was administered to 141 boys and 114 girls (see table 1). The age ranged from 7;5 to 14;0 years. 61 children were attending the second, 65 the third, 61 the fourth, and 68 children the fifth grade. Subjects were interviewed individually in a separate room of the school during class periods by trained interviewers using a standardized in-

1 For organizational reasons one grade 5 classroom was excluded from the study. Instead, one grade 5 classroom of a school situated in a neighboring district of similar social composition was included.

terview procedure (as described below). A subsample of 116 children and their parents were additionally interviewed at home about further characteristics of their friendships, about their friendship concept, about the quality of the parent-child relationship and about some other characteristics of family life. This subsample did not differ significantly from the total sample with regard to gender of child, age of child, family structure (one-parent households versus two-parent housholds), and important characteristics of the children's relationship networks (number of nominated relationships, number of nominated classmates and non-classmates).

In the "interview about friends" each child was asked to nominate all children with whom he or she had contact outside school. The interviewers checked for different occasions, places, and times to ensure a complete list of all playmates and friends. We included all relationships in school, neighborhood, and other places of the city in the analyses. We did not include relationships experienced only during weekends and vacations. These non-local friends are mostly described as very sociable partners, but these relationships do not underly the same crucial tests as permanent local friendships. In addition, the confirmatory factor analysis reported below (see figure 1) did not fit the data of non-local relationships.

The children were asked to describe all nominated relationships with respect to qualitative aspects. For the analyses presented here we used questions referring to reconciliation after conflicts, sharing of secrets, encouragement in case of sadness, protection if ridiculed by peers, fooling around, practical jokes on others, quarreling, liking, mutual visits at home, and mutual sleep overs.[2] The children also ranked all nominated relationships by assigning them to the four levels "best friend", "good friend", "friend", and "playmate".

Since we administered the "interview about friends" in almost complete classrooms, we can check the reciprocity of almost all relationships nominated in the classrooms and, therefore, we can compare reciprocal and non-reciprocal relationships within classrooms. Since children ranked their relationships, we also can compare reciprocal relationships on different levels of attributed quality.

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2 "With which of these children is it easy to be reconciled after a conflict?" (Circle the names.) "With which of these children can you share secrets?" (Circle the names.) "Imagine you are sad. Which one of these children would encourage you?" (Circle the names.) "Imagine you are ridiculed by other children. Which one of these children would protect you?" (Circle the names.) "With which of these children can you fool around? How often does this occur?" (often, sometimes, seldom, never) "With which of these children can you play practical jokes on others? How often does this occur?" (often, sometimes, seldom, never) "With which of these children do you quarell sometimes? How often does this occur?" (often, sometimes, seldom, never) "How much do you like these children?" (very much, much, a little, not) "Which one of these children did you visit at home during the last three months?" (Circle the names.) "Which one of these children visited you at your home during the last three months?" (Circle the names) "Did you ever sleep at night in the home of one of these children? With whom?" (Circle the names.) "Did any of these children ever sleep in your home at night? Which one?" (Circle the names.)

We computed three scales "assistance", "fun" and "absence of quarreling" which were developed and confirmed to be different dimensions of relationship descriptions by a factor analysis. The assistance scale was formed by the answers to four questions "protection against ridiculing peers", "reconciliation after conflict", " sharing secrets", and "encouragement in case of sadness" (alpha = .71). The fun scale was formed by the answers of the two questions "fooling around" and "practical jokes on others" (r = .47). The absence of quarrel scale was defined by the answers to the question referring to the extent of "quarreling".

In order to verify whether the factorial structure found in the analyses of all nominated relationships was also valid for each subgroup under study here (same-sex relationsships, opposite-sex relationships, relationships with classmates, relationships with non-classmates), we computed the confirmatory factor analyis separately for these different subgroups. The factorial structure was confirmed for all subgroups. Figure 1 shows the result of the confirmatory factor analysis for local relationships. The model fits the data quite well, according to the goodness of fit indices. The factors "assistance" and "fun" were highly interrelated (r = .48), indicating that assisting friends and playmates tend to be partners for having fun and vice versa. The factors "assistance" and "absence of quarreling" were related on a low level (r = .19). "Fun" and "absence of quarreling" were not correlated.

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insert fig.1 about here

Our data show that children ranked some children as "best friends" with whom they did not have much in common, according to the answers to the qualitative aspects of the relationships. They also ranked children as mere "playmates" with whom they said to have a lot in common. In order to obtain a better measure of the intensity of relationships than children's ranking, we computed a combined scale intensity of relationship formed by three indicators: (1) ranking of the nominated child as "best friend", "good friend", "friend", or "playmate" by the interviewed child; (2) liking of the nominated child by the interviewed child on a four level scale; and (3) mutual visits and sleep overs as reported by the interviewed child on four questions (alpha = .62).

The three scales "assistance", "fun" and "absence of quarreling" predicted 34 percent of the variance in the "intensity of relationship scale" (cf. Figure 2). The best predictor was assistance (beta = .47) whose predictive power by far exeeded the prediction achieved by "fun" (beta = .18) and "absence of quarreling" (beta = .13). Also the subgroups under study (relationships with classmates, relationships with non-classmates, same-sex relationships, opposite-sex relationships), pro-

duced the same pattern of results when these multiple regressions were computed: the more intense the relationship, the more assistance and fun was offered and the less quarrelsome was the nominated child.

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insert fig. 2 about here

All measures described above were computed on the level of the data set comprising all (local) relationships nominated by the children (N = 2102). The information about the characteristics of the nominated relationships was aggregated to an individual data file (N = 255 resp. N = 116). Thus, for example, an assistance value was computed for each nominated child by summing up the four values received for the assistance items protection, reconciliation, sharing secrets, and encouragement. The sum of these values obtained from all local relationships nominated by an interviewed child created the value of the "overall assistance index", which represents the extent of assistance an interviewed child received by all his or her local relationships. Analogically, an "overall fun index", an "overall quarrel index" and "an overall intensity of relationships index" were computed. An additional aggregated index was the total number of nominated local relationships.

Two variables were included in the analyses from the home interview: the friendship concept (Selman, 1981), using the German adaption by Keller (short version without friendship dilemma, cf. Keller, von Essen & Mönnig, 1987), and the social acceptance subscale of the Harter self-questionnaire (1983, see also Harter & Cornell, 1984) in the German adaption of Wünsche & Schneewind (1989; alpha = .68).

3. Results

3.1 General characteristics of children's social relationships

The 255 children interviewed nominated 2102 friends who lived in the same local community. Thus, on the average, each child claimed to have eight relationships. Individual differences were large, since one girl maintained to have not one single friend, while two boys nominated and described 18 relationships. By the way, the average number of relationships nominated by boys or by girls did not differ.

More than one third (36 percent) of all nominated relationships were assigned to the category of "best friend" and almost as many (30 percent) to the category of "good friend". The remaining re-

lationships were categorized as "friends" (19 percent) and "playmates" (16 percent). The children clearly differentiated between relationships, but, contrary to our expectations, they did not subdivide their relationships into an extended group of lower level friendships and a small circle of close friendships. Almost no child of this age group nominated the one chum with whom the child shares the joys and troubles of the peer world. For almost all children the best friends were the category that comprised the most relationships. The level of playmate was assigned very infrequently. There was also no difference of the number of best and good friends nominated by girls or boys.

Most of the relationships nominated (80 percent) were of the same sex. This figure underlines the pervasive sex segregation at this age of childhood, it demonstrates, however, that two thirds of the children maintained one or two relationships across the sex border. Also opposite-sex relationships often were categorized as best friendships although less frequently than same-sex relationships (28 instead of 38 percent).

More than half of the nominated relationships (54 percent) were relationships to classmates. Opposite-sex relationships were maintained in the classroom to the same extent as outside the classroom. This fact clearly demonstrates the relevance of the classroom for the social life of children. However, the result is not surprising as German primary schools are neighborhood schools. Thus, almost all children of the same age who a child can meet at street corners or on playgrounds in walking distance from home, the child will find again in the own classroom or in the classroom next door.

Among the relationships which children claimed to maintain in the classroom, less than two thirds (59 percent) were reciprocated as revealed by the interview of the nominated classmates. Since children were asked and stimulated by a number of reminders that they mentioned also children with whom they were in cursory contact only, it is remarkable that about three of the eight relationships which were nominated on the average, were not mentioned at all by the so-called friend. One may suspect that mainly relationships assigned to the lower level of friendships are not reciprocated. However, 45 percent of best or good friendships were not reciprocated on the same level and 33 percent were not even mentioned by the nominated best and good friend. Second- and third-graders more often than fourth- and fifth-graders nominated best friends who did not reciprocate the nomination. Opposite-sex relationships are reciprocated slightly less frequently than same-sex relationships.

3.2 Differences between same-sex and opposite-sex relationships

The children described 1666 same-sex and 423 opposite-sex relationships, answering to the same questions of the standardized interview (see table 3, row 1 and 2).

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insert table 3 about here

The children described same-sex relationships as more intense than opposite-sex relationships ($t = 5.15$; $p < .01$). That means, same-sex relationships were more often ranked as good or best friends, partners of same-sex relationships were more often much liked, and children reported that more mutual visits and sleep overs took place in same-sex relationships than in opposite-sex relationships. Children reported that they experienced more assistance ($t = 8.01$ p y .01), more fun ($t = 3.48$; $p < .01$), and more quarrels ($t = 1.81$ $p < .10$) in same-sex than in opposite-sex relationships. Thus, same-sex relationships did clearly differ from opposite-sex relationships, they were more intense, supportive, joyful, but also more quarrelsome.

Nevertheless, the interviewed children experienced intensity, assistance, fun, and quarrels in both subgroups of relationships. Therefore, we could calculate not only the "total number of nominated relationships", but also an "overall intensity of relationship index", an "overall asistance index", an "overall fun index", and an "overall quarrel index" separately for the two subgroups of relationships. These indices stand for different qualities of experiences children make in their peer relationships. How are these indices related to children's social acceptance and to their socio-cognitive development? Are the effects of experiences made in the two different relationship contexts - same-sex vs. opposite-sex - different?

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insert table 4 about here

We used the subscale "social acceptance" of Harter's (1983) self-acceptance questionnaire. Table 4 shows the correlations between the five indices for experiences in peer relationships and the children's feeling of being socially accepted separately for same-sex and opposite-sex relationships. All effects point into the same direction. The more relationships a child had, the closer these relationships were, the more assistance a child received, and the more fun a child experienced, the more the child felt socially accepted by peers. In this respect, opposite-sex relationships seemed to be of similar importance as same-sex relationships. If children had relationships to members of the other sex,

then the various experiences in these relationships affected their feeling of being accepted to almost the same extent as the same kind of experiences in same-sex relationships.

In our previous analyses (Oswald et al., in press) we conducted multiple regressions which showed that each of the five indices representing experiences in peer relationships affected the development of the friendship concept. Since the five indices based on the interview about friends were not defined independently, five multiple regression analyses were computed, each of them using only one of the indices. We repeat these computations for the subgroups here under study by including the index separately for same-sex and opposite-sex relationships. As the progress in children's friendship reasoning is correlated with age, we controlled for this variable.

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insert table 5 about here

The analyses yielded the result, that the number of opposite-sex relationships had an effect on the development of the friendship concept, the number of same-sex relationships had not. Similarly, the amount of assistance and fun experienced in opposite-sex relationships affected the development of the friendship concept, the same experiences in same-sex relationships did not. Only with respect to quarrels same-sex relationships seemed to be of greater importance than opposite-sex relationships. The amount of quarrels experienced in same-sex relationships predicted the level of the friendship concept. In contrast, the overall quarrel index of opposite-sex relationships did not predict the level of the friendship concept.

We may summarize that the experience of having opposite-sex relationships and of getting assistance and fun in opposite-sex relationships was positively related to socio-cognitive development. The same result was not found for same-sex relationships. Only the amount of quarrels experienced in same-sex relationships was positively related to socio-cognitive development.

3.3 Differences between classmates and non-classmates

We now turn to the comparison between the relationships with classmates and with non-classmates (see table 3, row 3 and 4). In the mean the relationships inside and outside the classroom were of equal intensity and provided equal amounts of fun. In contrast, the children described their relationships with classmates as providing more assistance ($t = 3.89$; $p < .01$) and more quarrels ($t = 4.90$; $p < .01$) than their relationships with non-classmates. In some respects, classmates seem to be of equal importance than non-classmates, in other respects, classmates seem to be of greater impor-

tance. With respect to the children's feeling of being accepted, classmates were important and non-classmates were not (see table 6).

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insert table 6 about here

Using the same procedure as in the comparison of same-sex vs. opposite-sex relationships we got the result that the number of relationships with classmates as well as the amount of intensity, assistance, and fun experienced with classmates were related to Harter's (1983) social acceptance scale. Only the amount of quarrels with classmates did not affect the feeling of being socially accepted. In contrast, none of these indices calculated for non-classmates showed any relation to the children's feeling of being socially accepted.

We then analyzed whether relationships inside and outside the classroom had different effects on the socio-cognitive development (see table 7).

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insert table 7 about here

As for the comparison of same-sex and opposite-sex relationships we conducted five multiple regressions for each of the five indices (see table 7). In each regression we included the respective index for classmates and non-classmates as predictors and controlled for age. The only difference between classmates and non-classmates was found for the experience of fun. The amount of fun with classmates in contrast to the amount of fun with non-classmates predicted the concept of friendship. The number of relationships, the intensity of relationships, and the amount of assistance gained from these relationships did not predict the concept of friendship, neither for classmates nor for non-classmates. The overall quarrel index predicted the concept of friendship for relationships with classmates as well as for the relationships with non-classmates to almost the same amount.

We may summarize that relationships with classmates are of higher importance for children's feeling of being accepted than relationships to non-classmates. The same difference was not found with respect to socio-cognitive development.

3.4 Reciprocity of relationships

Our last analysis is restricted to classmates because only in the classroom we know which relationship nominations are reciprocated. Almost 40 percent of the relationships claimed by the target child were not reciprocated. Are reciprocal and non-reciprocal relationships different on our measures of relationship characteristics? In order to analyze whether one-sided friendships are described in another way than reciprocal friendships we again compared the means of different characteristics of relationships for the two groups using a t-test procedure (see table 3).

A reciprocal relationship was defined as a relationship nominated by one child on one of the four levels "best friend", "good friend", "friend", or "playmate" and reciprocated by the nominated child on whatever level. According to this definition, a relationship, for example, is reciprocal, if a child nominated as best friend calls the nominator playmate. The comparison of row 5 and 6 (table 3) clearly shows that reciprocal relationships were more intense and provided more assistance and fun.

The differences found for intensity, assistance, and fun were even higher if we compared relationships which were reciprocated on the levels good and best friends (row 7) with relationships which are not reciprocated on the same levels (row 8). Only the absence of quarrels did not differentiate between reciprocal and not-reciprocal relationships.

4. Discussion

By the technique of checking places and times used for children´s meetings, the "interview about friends" (Krappmann et al., 1991) stimulates children to nominate all their same-sex and opposite-sex relationships inside and outside school. They also qualify the relationship to each nominated child by answering a set of questions which refer to the intensity of relationships (ranking, liking, frequency of contacts), to assistance (protection, encouragement, sharing secrets, reconciliation after conflicts), to fun (fooling around, practical jokes), and to quarrels.

The relationships that children claim to have to children outside classrooms - about half of the relationships according to our results - elicit the question whether the nominated children reciprocate the nomination or not. Often this question cannot be answered because it is usually impossible to find and interview the children nominated outside the classroom. Many researchers, therefore, restrict their studies to the investigation of relationships in classrooms and schools, because they regard the control for reciprocity as being crucial. For a number of research topics this restriction to classroom and school studies is very unsatisfactory, for instance when the effects of peer-network

characteristics on children's social adjustment or psychological development shall be investigated. We should consider that relationships outside the classroom may contribute to children´s development and compensate for deficits experienced in the clasroom. Our study offers one way to assess what we are missing if the information about reciprocity cannot be obtained.

The comparison of reciprocal and non-reciprocal nominations of classmates presented in this paper shows that reciprocated nominations are described as more intense and as providing more assistance and fun. This result manifests that children´s descriptions of relationships are influenced by the existing or not existing mutuality of these relationships. Relationships which are qualified higher with regard to important issues of children´s social life, are probably reciprocal relationships. This is even more true when children become older.

Thus, researchers who want to make sure that the relationships indicated by children exist in social reality, should ask the subjects to describe behaviors of nominated friends. This procedure will help to determine the circle of relationships that are of relevance for children, also when information about reciprocity is not available. Although in a small number of cases a relationship may be mistakenly regarded as close mutual relationship, the assessment of the overall social integration of a child seems to be sufficiently correct. The check for relationship qualities instead of reciprocity opens an avenue to studies of representative samples of children and adolescents outside school. This may be of special interest for studies of children in deprived neighborhoods or in the case that access to schools is prohibited.

The same measures which we used to compare the reciprocity information and qualitative descriptions of relationships were applied to the analysis of differences between relationships to classmates and to non-classmates. Relationships to classmates provide more assistance and contain more quarrels than relationships to non-classmates. These differences may mirror qualities of the social settings in which these relationships are maintained. It is hard to belief that children can easier avoid conflicts with friends outside school or are less in need of help, because situations outside school are less structured, individual intentions often collide, and the children whose social capacities are not yet fully developed, have to solve emerging problems for themselves. However, the classroom may produce more crucial tests for assistance offered by friends and for quarrels that must be settled so that children do not fail to achieve and do not attract their teachers´ attention.

For these reasons children need more effective assistance and use received assistance as a strong criterion for the quality of relationships with classmates. At the same time, they have more conflicts with these friends, because instruction, school life and the crowdedness of the classroom generate strain, differing interests, and diverging proposals which stimulate conflicts. However, the child who achieves to be a member of a supportive network and knows how to deal with conflicts under

these circumstances, has solved an important social task. Therefore, relationships which the child has established in the classroom, more intensively engender the feeling of being socially accepted as demonstrated by our data than relationships maintained in domains where consequences of unsolved problems are less serious. Additionally, acceptance and non-acceptance are quite obvious inside the classroom, so that the child can compare the support it receives with support given to others, or the fun of other children with his or her own failure to find enjoyment. It is also possible that children outside school are not as exclusively dependent on their peers as inside the classroom. They may find compensation for missing support or fun within their relationships to parents, siblings, relatives, and other benevolent persons.

On the other hand, peer relationships outside the classroom are not irrelevant, since children describe their relationships to non-classmates as likewise intense and joyful as relationships inside the classroom. Relationships outside the classroom may serve different purposes. The importance of non-classmates is reflected in the result that the influence of relationship characteristics on the development of the friendship concept is observed for classmates and non-classmates. Peer relationships inside and outside the classroom foster socio-cognitive development although they are described differently.

Relationships to members of the other sex are a special kind of relationships. Only about 20 percent of the nominated relationships cross the gender border. Similar proportions were reported for ten cultures by Whiting and Edwards (1988) or by Tietjen for Sweden (1982). We know from other studies (Thorne, 1985; Oswald, Krappmann, Chowdhuri, von Salisch, 1987) that girls and boys frequently interact in school, but that members of the other sex are seldomly called friends or playmates. In this study children described their opposite-sex relationships as less intense and as providing less assistance, fun, and quarrels. In view of these data opposite-sex relationships are not only minor with regard to number, but also of minor importance. However, the fact that a child has opposite-sex relationships, contributes to his or her feeling of being socially accepted to almost the same extent as relationships to same-sex peers. Moreover, the number and characteristics of opposite-sex relationships had impact on the development of the friendship concept, whereas the same characteristics of same-sex relationships did not produce this effect.

The result is surprising and needs more clarification. Perhaps, children with a more advanced concept of friendship are more capable to deal with the undeniable diversities of the partners in these relationships. Also when the result should be corroborated by other studies, this would not mean that same-sex relationships are unimportant for development. A whole body of theory and research stands against this implication. However, the developmental influence of opposite-sex relationships may be underestimated for children in middle childhood because of the small portion of such relationships and because of the assumption of a latency period. Further explorations of opposite-sex

relationships in middle childhood may enlarge our knowledge about peer relationships in general and enrich future discussions about coeducation in schools.

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FIGURE 1

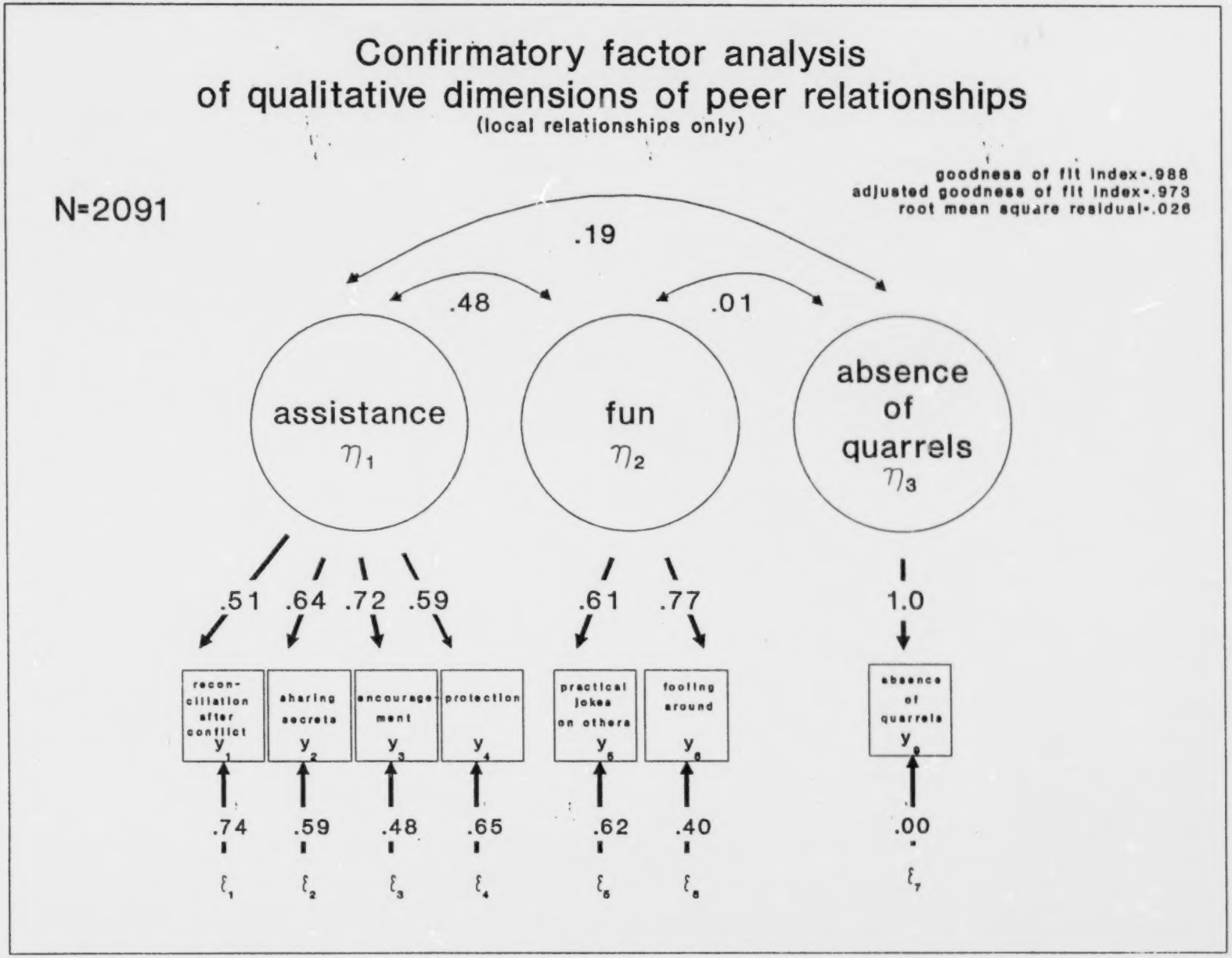
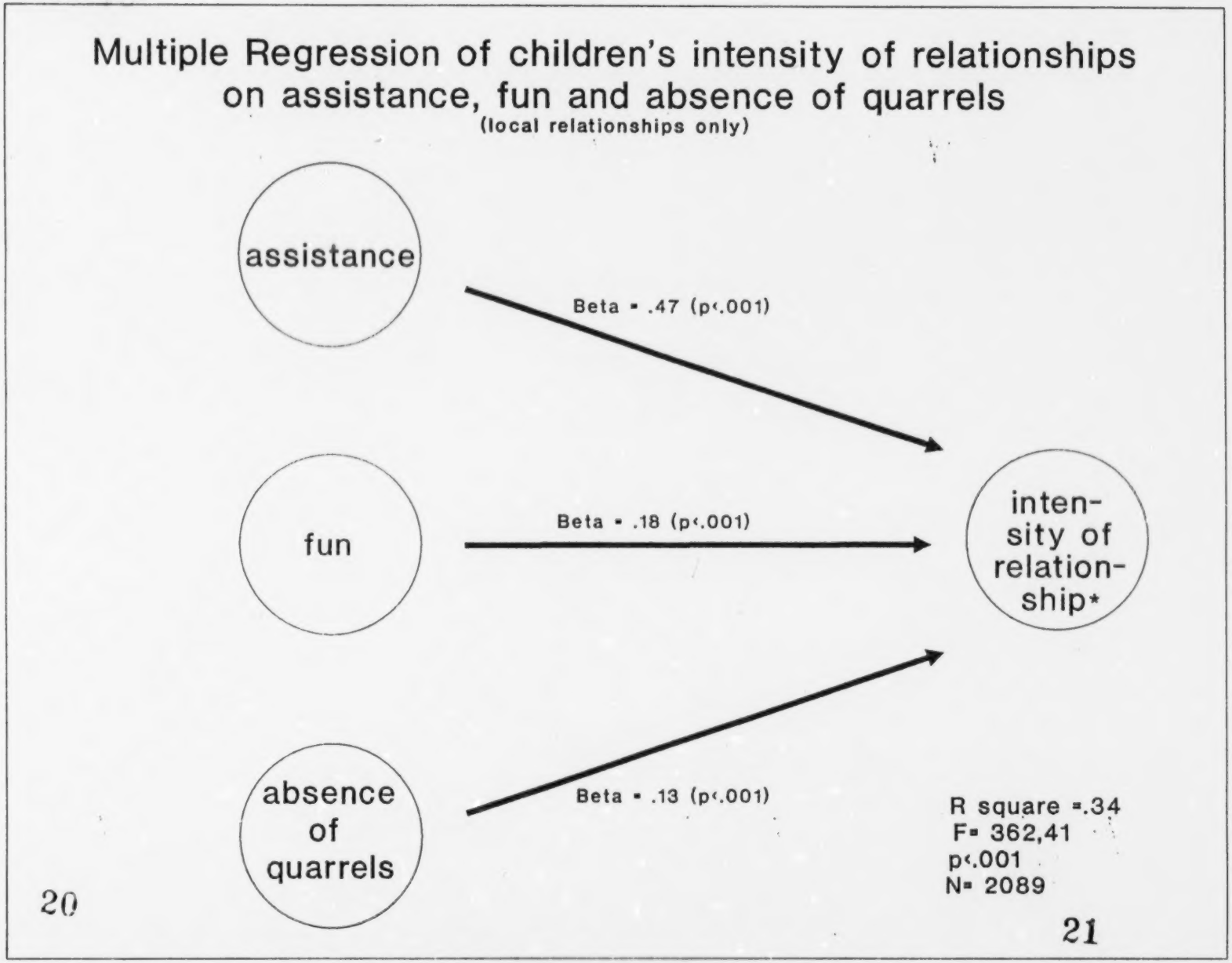

Confirmatory factor analysis
of qualitative dimensions of peer relationships
(local relationships only)
goodness of fit index=.988
adjusted goodness of fit index=.973
root mean square residual=.026
N=2091
.19
.48
.01
assistance
η_1
fun
η_2
absence of quarrels
η_3
.51
.64
.72
.59
.61
.77
1.0
reconciliation after conflict
sharing secrets
encouragement
protection
practical jokes on others
fooling around
absence of quarrels
y_1
y_2
y_3
y_4
y_5
y_6
y_7
.74
.59
.48
.65
.62
.40
.00
ε_1
ε_2
ε_3
ε_4
ε_5
ε_6
ε_7

FIGURE 2



* combined index: ranking, liking, mutual visiting at home and mutual sleepovers

FIGURE 3

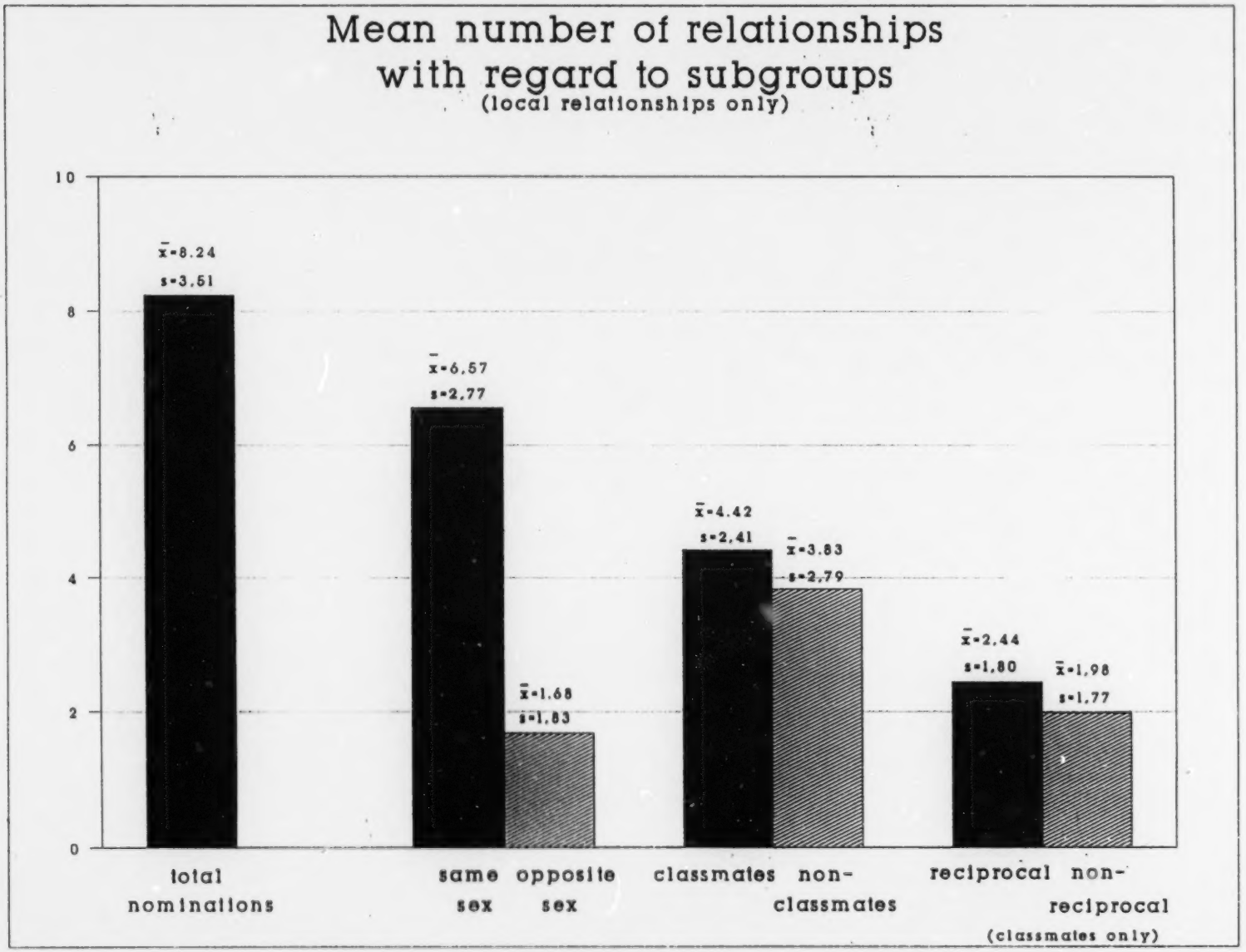

Mean number of relationships
with regard to subgroups
(local relationships only)
10
8
6
4
2
0
x̄=8.24
s=3.51
x̄=6.57
s=2.77
x̄=1.68
s=1.83
x̄=4.42
s=2.41
x̄=3.83
s=2.79
x̄=2.44
s=1.80
x̄=1.98
s=1.77
total nominations
same sex
opposite sex
classmates
non-classmates
reciprocal
non-reciprocal
(classmates only)

TABLE 1

METHOD: SUBJECTS

1. Children interviewed at school (N=255)

girls	45 %
boys	55 %

age range:
from 7;5 to 14;0 years

second grade	24 %
third grade	25 %
fourth grade	24 %
fifth grade	27 %

2. Children additionally interviewed at home (N = 116)

girls	44 %
boys	56 %

age range:
from 7;5 to 12;2 years

second grade	24 %
third grade	25 %
fourth grade	22 %
fifth grade	28 %

TABLE 2

METHOD: MEASURES

1. Variables based on the relationship data set (N = 2102)
(interview about friends, Krappmann et al., 1991)

- **Ranking of relationships**
  given by the interviewed child on four levels: 'playmate', 'friend', 'good friend', or 'best friend';
  $\bar{x}$ = 2.86, s = 1.07

- **Intensity of relationships**
  scale formed by three indicators: (1) ranking of relationships, (2) liking of the nominated child by the interviewed child on a four level scale, (3) mutual visits and sleep overs as reported by the interviewed child on four questions (alpha = .62);
  $\bar{x}$ = 8.77, s = 3.36

- **Assistance**
  scale formed by the answers to four questions 'protections against the ridiculing peers', 'reconciliation after conflict', 'sharing secrets', and 'encouragement in case of sadness'
  (alpha =.71); $\bar{x}$ = 2.31, s = 1.43

- **Fun**
  scale formed by the answers of two questions 'fooling around' and 'practical jokes on others' (r = .47);
  $\bar{x}$ = 3.26; s = 1.94

- **Absence of quarrels**
  defined by the answers to the question about quarreling;
  $\bar{x}$ = 3.06, s = 0.92

2. Variables based on the individual data set (N = 225 resp. 116)

- **Total number of nominated relationships**
  given by the individual child

- **Overall intensity of relationships index**
  the sum of all intensity values for all children nominated by an interviewed child

- **Overall assistance index**
  the sum of all assistance values for all children nominated by an interviewed child

- **Overall fun index**
  the sum of all fun values for all children nominated by an interviewed child

- **Overall quarrel index**
  the sum of all quarrel values for all children nominated by an interviewed child

- **Social acceptance**
  subscale of the Harter (1983, see also Harter & Cornell, 1984) self-questionnaire in the German adaption of Wünsche & Schneewind (1989)
  (alpha = .68); $\bar{x}$ = 3.09, s = 0.58

- **Concept of friendship**
  (Selman, 1981, using the German adaption by Keller, short version without friedship dilemma, cf. Keller, von Essen und Mönning, 1987)
  $\bar{x}$ = 1.56 , s = 0.43

TABLE 3

COMPARISON OF CHILDREN'S RELATIONSHIPS WITH REGARD TO SEX-COMPOSITION, CLASSMATESHIP, AND RECIPROCITY (MEANS)

	intensity of relationships	assistance	fun	absence of quarrels
same-sex relationships N=1666	8.96	2.45	3.34	3.04
vs.	**	**	**	(*)
opposite-sex relationships N=423	8.02	1.82	2.97	3.13
classmates N=1119	8.75	2.42	3.31	2.97
vs.	n.s.	**	n.s.	**
non-classmates N=970	8.80	2.18	3.21	3.16
within classroom only reciprocal relationships N=620[1]	9.81	2.72	3.65	3.02
vs.	**	**	**	n.s.
non-reciprocal relationships N=425[1]	7.21	1.96	2.78	2.93
within classroom only reciprocal good and best friends *target child[2]: level 3 or 4, partner: level 3 or 4* N=389	11.20	3.07	3.97	3.13
vs.	**	**	**	n.s.
non-reciprocal good and best friends *target child[2]: level 3 or 4, partner: level 1 or 2 or no nomination at all* N=317	9.27	2.57	3.17	3.17

** $p < .01$ * $p < .05$ (*) $p < .10$

1 7% of nominated classmates refused the interview; therefore the N of 1119 nominated classmates was reduced to 1045 classmates for which reciprocity informations were obtained.

2 level 1: playmate, level 2: friend, level 3: good friend, level 4: best friend

TABLE 4

CORRELATIONS OF RELATIONSHIP INDICES WITH SOCIAL ACCEPTANCE (PEARSON'S R) FOR SAME-SEX AND OPPOSITE-SEX RELATIONSHIPS

N=106	social acceptance[1] same-sex relationships	social acceptance[1] opposite-sex relationships
total number of nominated relationships	.24**	.13(*)
overall intensity of relationship index	.24**	.16(*)
overall assistance index	.21*	.17*
overall fun index	.21*	.15(*)
overall quarrel index	(.03)	(.09)

(*) $p < .10$ * $p < .05$ ** $p < .01$

1 Harter (1983), German adaption by Wünsche & Schneewind, 1989

TABLE 5

FIVE MULTIPLE REGRESSIONS OF FRIENDSHIP CONCEPT ON AGE AND RELATIONSHIP INDICES FOR SAME-SEX AND OPPOSITE-SEX RELATIONSHIPS

	Concept of friendship (1) Beta	(2) Beta	(3) Beta	(4) Beta	(5) Beta
total number of nominated					
same-sex relationships	(.08)				
opposite-sex relationships	.15*				
overall intensity index of					
same-sex relationships		(.07)			
opposite-sex relationships		(.12)			
overall assistance index of					
same-sex relationships			(.02)		
opposite-sex relationships			.15(*)		
overall fun index of					
same-sex relationships				(.04)	
opposite-sex relationships				.19*	
overall quarrel index of					
same-sex relationships					.20*
opposite-sex relationships					(.11)
age	.56**	.55**	.58**	.52**	.59**
R^2	.38	.37	.37	.40	.41
F	21.87**	20.35**	20.70**	23.00**	24.62**
N	109	108	108	107	109

(*) $p < .10$ * $p < .05$ ** $p < .01$

TABLE 6

CORRELATIONS OF RELATIONSHIP INDICES WITH SOCIAL ACCEPTANCE (PEARSON'S R) FOR CLASSMATES AND NON-CLASSMATES

N=105	social acceptance[1] relationships with classmates	non-classmates
total number of nominated relationships	.24**	(.09)
overall intensity of relationship index	.28**	(.06)
overall assistance index	.29**	(.02)
overall fun index	.23**	(.10)
overall quarrel index	(.08)	(.04)

(*) $p < .10$ * $p < .05$ ** $p < .01$

1 Harter (1983), German adaption by Wünsche & Schneewind, 1989

TABLE 7

FIVE MULTIPLE REGRESSIONS OF CONCEPT OF FRIENDSHIP ON AGE AND RELATIONSHIP INDICES FOR RELATIONS WITH CLASSMATES AND NON-CLASSMATES

	Concept of friendship (1) Beta	(2) Beta	(3) Beta	(4) Beta	(5) Beta
total number of nominated relationships with classmates	(.12)				
non-classmates	(.12)				
overall intensity of relationships index for classmates		(.12)			
non-classmates		(.09)			
overall assistance index for classmates			(.10)		
non-classmates			(.05)		
overall fun index for classmates				.23**	
non-classmates				(.00)	
overall quarrel index for classmates					.17*
non-classmates					.15(*)
age	.57**	.55**	.57**	.50**	.59**
R^2	.38	.37	.36	.41	.41
F	21.41**	19.93**	19.71**	23.91**	24.64**
N	109	107	108	107	109

(*) $p < .10$ * $p < .05$ ** $p < .01$

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Type Abstract Here --

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TYPES OF PEER RELATIONSHIPS OF CHILDREN IN MIDDLE CHILDHOOD

Lothar Krappmann, Max Planck Institute for Human Development and Education, Lentzeallee 94, D-1000 Berlin 33;
Hans Oswald; Karin Weiss, & Harald Uhlendorff, Freie Universität Berlin

Qualitative and quantitative aspects characterizing distinct types of peer relationships are investigated in order to specify different modes of individual children's social integration. Data on children's relationships were collected for 255 children (age 7;6 to 14;0 years), attending an inner city primary school in Berlin. Analyses reveal three descriptive factors by which three types of relationships can be identified. Individual children's networks of relationships vary widely. Relations between modes of children's social integration and loneliness as well as concept of friendship are examined.

Submitter's name: Krappmann, L.; Oswald, H.; Weiss, K.; Uhlendorff, H.

Key words: peer relations, friendship, loneliness

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